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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

Project	Date	Author

SUBJECT—

TITLE

REPORT OF PINE BEETLE SURVEYS

IN THE

GLENWOOD DISTRICT, KLICKITAT RIVER INFESTATION AREA
KLICKITAT, SKAMANIA AND YAKIMA COUNTIES, WASHINGTON

SEASON OF 1942

By

J. M. Whiteside
Assistant Entomologist
Bureau of Entomology and Plant Quarantine

April 1943

Forest Insect Laboratory
445 U. S. Court House
Portland, Oregon

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IN THE
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SEASON OF 1942

Approved by:

F. P. Keen
Senior Entomologist

Submitted by:

J. M. Whiteside
Assistant Entomologist

Forest Insect Laboratory
445 U. S. Court House
Portland, Oregon
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ABSTRACT

A. The 1941 Infestation (Complete Record)

1. Primary insect - Western pine beetle in ponderosa pine
2. Estimated gross mortality for 1941 -

No. Trees	Volume (BM)	Volume per Acre	Percent of Stand
5,000	4,500,000	30	0.4

3. Classification of infestation - Normal endemic type of losses
4. Trend of infestation - Steadily downward since the peak in 1939.

B. The 1942 Infestation (Partial Record)

1. Primary insect - Western pine beetle in ponderosa pine
2. Probable trend - Downward from the 1941 level
3. Recommendations- No direct control necessary, but continued cutting of trees susceptible to insect attack recommended.

REPORT OF PINE BEETLE SURVEYS
GLENWOOD DISTRICT, KLICKITAT RIVER INFESTATION AREA, WASHINGTON
SEASON OF 1942

The eighth pine beetle survey of the ponderosa pine stands comprising the Glenwood District of the Klickitat River Infestation Area, Washington was made on October 13, 1942. Since 1940, these surveys have consisted of a one hundred percent cruise of only one 320-acre check plot plus an observational survey over most of the district. The check plot was recruised by the writer with the assistance of Messrs. C. M. Beil and R. M. Hudson of the Supervisors office of the Deschutes National Forest. In addition to the regular pine beetle cruise, a ten percent cruise of the check plot green stand was made by the random quarter-acre circular plot method. No observational survey was made in 1942.

RESULTS OF THE SURVEY

The 1942 survey completed the loss record for 1941 and gave preliminary loss data for 1942. The gross losses on the Bacon Creek plot were 78 board feet per acre or .36 percent of the stand. Although there is only one plot in the district, it is felt that the trend of the losses obtained on the plot are representative of those in the virgin stands of the district. The 1941 losses are 8 percent lower than those of 1940.

Tentative plot losses for 1942 (Table 1) indicate that the mortality caused by the western pine beetle is at a low stage, for it is estimated to be 60 percent lower than in 1941.

Generalized estimates of the 1941 losses for the district as a whole are given in table 2. The accompanying map shows the general distribution of the losses in 1941. Approximately 30 board feet per acre or .4 percent of the stand were killed in the district during 1941.

Infestation Trends

The trend of western pine beetle losses on the check plots of the Glenwood district is shown in figure 2. From 1935 to 1937, the losses caused by pine beetles were very low, but in 1938 they increased markedly and have maintained a fairly high level until 1942 when a sharp drop occurred. The trend of these losses has been gradually downward since the peak of 1939.

RECOMMENDATIONS

With current pine beetle losses at a low ebb, no direct control measures are necessary and none are recommended at this time. The removal of trees susceptible to insect attack, as practiced by the J. Neils Lumber Company on their sustained yeild unit in the district, has helped to materially reduce the mortality of ponderosa pine and the threat of future epidemic losses. This practice should be continued and should be extended as rapidly as possible to the remaining virgin stands of the Glenwood district.

Table 1. Pine timber killed by bark beetles on one virgin check plot in 1941 and 1942 —Glenwood District, Klickitat River Infestation Area, Washington

Check Plot	Year	Ponderosa Pine Type		Gross Losses				
		Acres	Volume (BM)	No. of Trees	Volume (BM)			
					Total	Per Acre	Percent of Stand	Ratio to Previous Ye
Bacon Creek	1941	320	7,000,000	28	25,040	78	.36	.92
	1942*	320	7,000,000	18	10,000	31	.14	.40

* 1942 losses have been estimated from partially completed survey data

Table 2. Estimated insect-caused mortality of ponderosa pine in 1941 —Glenwood District, Klickitat River Infesation Area, Washington

District	Ponderosa Pine Type		Estimated Gross 1941 Losses				
	Acreage	Volume (MBM)	Trees		Volume		
			Total	Per Section	Total (MBM)	BM Per Acre	Percent of Stand
Glenwood	149,000	1,045,000	5,000	22	4,500	30	.4

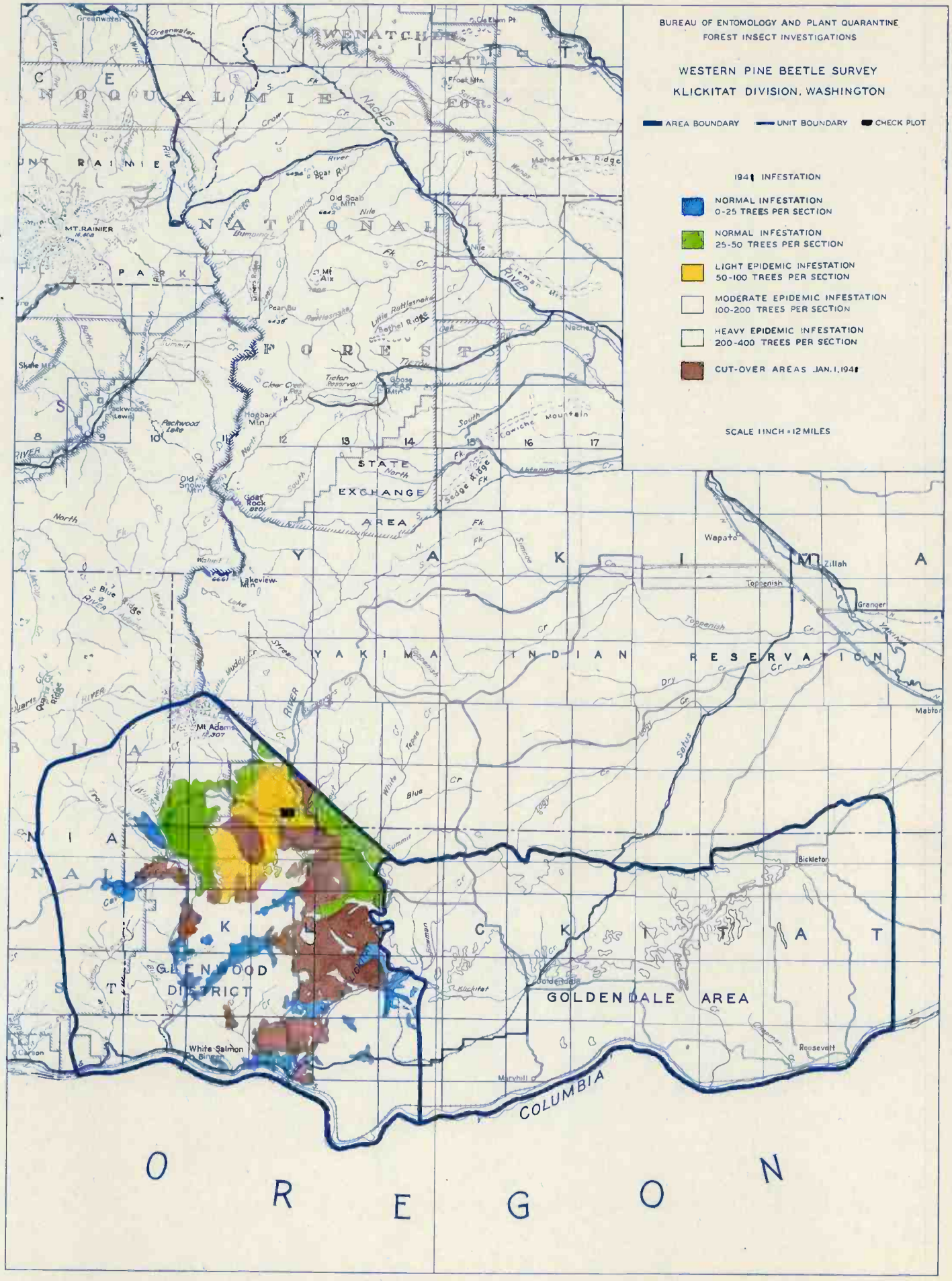
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
FOREST INSECT INVESTIGATIONS
WESTERN PINE BEETLE SURVEY
KLICKITAT DIVISION, WASHINGTON
AREA BOUNDARY
UNIT BOUNDARY
CHECK PLOT
1941 INFESTATION
NORMAL INFESTATION 0-25 TREES PER SECTION
NORMAL INFESTATION 25-50 TREES PER SECTION
LIGHT EPIDEMIC INFESTATION 50-100 TREES PER SECTION
MODERATE EPIDEMIC INFESTATION 100-200 TREES PER SECTION
HEAVY EPIDEMIC INFESTATION 200-400 TREES PER SECTION
CUT-OVER AREAS JAN. 1, 1941
SCALE 1 INCH = 12 MILES
WENATCHEE NATIONAL FOREST
MT. RAINIER NATIONAL PARK
STATE EXCHANGE AREA
YAKIMA INDIAN RESERVATION
GLENWOOD DISTRICT
GOLDENDALE AREA
COLUMBIA
OREGON
WASHINGTON
Mt Adams
Lakeview Mtn
Goat Rock
Old Snowy Mtn
Hogback Mtn
Goose Egg Mtn
Mt Aix
Old Scab Mtn
Frost Mtn
Wapato
Toppenish
Zillah
Granger
Mabton
Bickleton
Goldendale
White Salmon
Roosevelt
Marryhill

FIGURE 2

TREND OF GROSS WESTERN PINE BEETLE LOSSES

ON SURVEY CHECK PLOTS

GLENWOOD DISTRICT, KLICKITAT RIVER INFESTATION AREA, WASHINGTON